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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/743,802

Applicant(s)

YOON ET AL.

Examiner

SARVESH J. NADKARNI

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF 298)
Paper No(s)/Mail Date 04/01/2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

This Office Action is in response to the Amendment filed April 1, 2008, in relation to Application Number: 10/743,802 (hereinafter referred to as “amendment”). No claims have been cancelled. Claims 1-11 and 14-18 have been amended. Claims 19-22 are newly added. Therefore, claims 1-22 are currently pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 11, 4 and 13, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara et al., (US 2002/0005857 A1) hereinafter referred to as the “Kasahara Publication” and further in view of Kang et al., (US 6,653,795 B2) hereinafter referred to as “Kang” and further in view of Shigeta et al., (US 6,646,625 B1) hereinafter referred to as Shigeta ‘625.
3. Regarding claim 1, the Kasahara Publication clearly teaches **a method of driving a plasma display panel** (see at, but not limited to, page 3, paragraphs [0065]-[0067 continued on page 4), **comprising the steps of: selecting an operation mode** (see at, but not limited to, page 9 paragraph [0094] and FIG. 10A and 10B) **on a basis of a motion extent of a data** (see at, but not limited to page 11 paragraphs [0114]-[0119],) **and controlling a sub-field arrangement**

arranged within one frame interval differently in response to said selected operation mode (see at, but not limited to page 11 paragraphs [0114]-[0119] particularly paragraph [0119]) but does not explicitly teach **said frame interval including a plurality of selective erasing sub-fields and a plurality of selective writing sub-fields, wherein said controlling includes: setting a number of selective erasing sub-fields to be larger than a number of selective writing sub-fields in a first operation mode, and setting a number of selective writing sub-fields to be larger than a number of selective erasing sub-fields in a second operation mode.** In the same field of endeavor, Kang clearly teaches **said frame interval including a plurality of selective erasing sub-fields** (see at least column 7, lines 60 to end and continued at least at column 8, lines 1-25 further illustrated in FIGs. 5 and 8 and additionally in Table 2) **and a plurality of selective writing sub-fields** (see at least column 7, lines 60 to end and continued at least at column 8, lines 1-25 further illustrated in FIGs. 5 and 8 and additionally in Table 2), **wherein said controlling includes: setting a number of selective erasing sub-fields to be larger than a number of selective writing sub-fields in a first operation mode** (see at least column 12 lines 28-35 and further illustrated at least at FIG. 8 having 5 selective writing and 6 selective erasing sub-fields).

4. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate the method of driving a plasma display as taught by Kasahara into the selective erasing an selective writing driving method of Kang because both are within the same field of endeavor, and furthermore, because Kang would improve the driving speed and contrast of the plasma display, both of which are common goals within the art (see Kang Abstract).

5. Kang does not expressly teach **setting a number of selective writing sub-fields to be larger than a number of selective erasing sub-fields in a second operation mode**. In the same field of endeavor, Shigeta '625 clearly teaches **setting a number of selective writing sub-fields to be larger than a number of selective erasing sub-fields in a second operation mode** (see at least FIG. 31 and further described at least at column 22, lines 20-41).
6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have been motivated to incorporate the method of driving a plasma display including the selective erasing and selective writing sub-fields as taught by Kasahara in view of Kang above into the driving method as taught by Shigeta '625 because all are within the same field of endeavor and furthermore, because Shigeta improves the image quality in driving the device by selectively choosing the drive scheme based on the type of signal to be displayed (see at least Shigeta '625 Abstract).
7. Regarding claim 11 the Kasahara in view of Kang further in view of Shigeta '625 clearly teaches **a driving apparatus** (see FIG. 11 generally) **for a plasma display panel** (see FIG. 11 element 24), **comprising: a mode selector** (see at, but not limited to, page 9 paragraph [0094] and FIG. 10A and 10B) **for selecting an operation mode on a basis of a motion extent of a data** (see at, but not limited to page 11 paragraphs [0114]-[0119], and FIG. 11-13); **and a controller** (see at, but not limited to page 14, paragraphs [0157]-[0163] subfield controller 10 FIG 20) **for controlling a sub-field arrangement arranged within one frame interval** (see, at but not limited to page 14, paragraphs [0157]-[0158]) **differently in response to said selected operation mode** (see, at but not limited to, page 9 paragraph [0094] and FIGs. 10A and 10B) **said frame interval including a plurality of selective erasing sub-fields** (see Kang at least

Art Unit: 2629

column 7, lines 60 to end and continued at least at column 8, lines 1-25 further illustrated in FIGs. 5 and 8 and additionally in Table 2) **and a plurality of selective writing sub-fields** (see Kang at least column 7, lines 60 to end and continued at least at column 8, lines 1-25 further illustrated in FIGs. 5 and 8 and additionally in Table 2), **wherein said controlling includes: setting a number of selective erasing sub-fields to be larger than a number of selective writing sub-fields in a first operation mode** (see Kang at least column 12 lines 28-35 and further illustrated at least at FIG. 8 having 5 selective writing and 6 selective erasing sub-fields), **and setting a number of selective writing sub-fields to be larger than a number of selective erasing sub-fields in a second operation mode** (see Shigeta '625 at least FIG. 31 and further described at least at column 22, lines 20-41).

8. Regarding claim 4, the Kasahara Publication in view of Kang further in view of Shigeta '625 clearly teaches **the method as claimed in claim 1** (see above), **wherein selecting the operation mode includes: comparing said data between frames to calculate a variation amount** (see Kasahara page 16, paragraph [0183] describing detection of change) **and then comparing said variation amount with a desired reference value** (see Kasahara page 16 paragraph [0184]-[0186]), **thereby selecting said operation mode** (see Kasahara page 16 paragraphs [0187]-[0190] describing selected mode of operation and as explained on page 9, paragraph [0094] and FIGs. 10A, 10B, and 21).

9. Regarding claim 13, the Kasahara Publication in view of Kang further in view of Shigeta '625 clearly teaches **the driving apparatus as claimed in claim 11** (see above), **wherein said mode selector compares said data between frames to calculate a variation amount** (see Kasahara page 16, paragraphs [0182]-[0186]) **and then compares said variation amount with**

a desired reference value (see Kasahara page 16 paragraph [0184]-[0186]), **thereby selecting said operation mode** (see Kasahara page 16 paragraphs [0187]-[0190] describing selected mode of operation and as explained on page 9, paragraph [0094] and FIGs. 10A, 10B, and 21).

10. Regarding claim 19, the Kasahara Publication in view of Kang further in view of Shigeta '625 clearly teaches **the method as claimed in claim 1** (see above), **wherein setting the number of selective erasing sub-fields to be larger than the number of selective writing sub-fields corresponds to a first number of gray levels that are capable of being generated, and wherein setting the number of selective writing sub-fields to be larger than the number of selective erasing sub-fields corresponds to a second number of gray levels that are capable of being generated, the second number of gray levels being greater than the first number of gray levels** (see the Shigeta '625 describing various gray levels created wherein at the second number is greater than the first number at least at claim 21 and further at least at in column 33 and 34 describing various gray levels produced and further illustrated in FIGs. 46A-47B).

11. Regarding claim 20, the Kasahara Publication in view of Kang further in view of Shigeta '625 clearly teaches **the method as claimed in claim 1** (see above), **wherein the selective writing sub-fields select on cells using binary coding** (see Kang Table 2 near columns 7 and 8) **and the selective erasing sub-fields select off cells using linear coding** (see Kang at least at column 8, lines 46-60 describing linear coding), **and wherein a number of gray levels capable of being generated by the selective erasing sub-fields using linear coding is less than a number of gray levels capable of being generated by the selective writing sub-fields** (see Kang table 2; it would be obvious to one of ordinary skill to variably alter Table 2 in order to suit the requisite purpose of the display).

12. Regarding claim 21, the Kasahara Publication in view of Kang further in view of Shigeta '625 clearly teaches **the method as claimed in claim 1** (see above), **wherein a last one of the selective erasing subfields does not have a reset period and other ones of the selective writing sub-fields have a reset period** (see Kang at least at claim 35 and 36 describing placement of reset period within sub-fields).

13. Regarding claim 22, Kasahara Publication in view of Kang further in view of Shigeta '625 clearly teaches **the method as claimed in claim 1** (see above), **wherein a last one of the selective writing sub-fields does not have an erasure period and other ones of the selective writing sub-fields has an erasure period** (see Kang at least at claim 35 and 36 describing placement of erasure period within sub-fields).

14. Claims 2, 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Kasahara Publication in view of Kang further in view of Shigeta '625 as applied to claim 1 above, and further in view of Boger (US 6,724,351 B1) hereinafter referred to as "Boger '351".

15. Regarding claim 2, the Kasahara publication in view of Kang further in view of Shigeta '625 clearly teaches **the method as claimed in claim 1** (see above). The Kasahara Publication does not explicitly teach the method **further comprising: receiving at least one of a signal from a remote controller for remotely controlling the plasma display panel, a cable signal connected to a different media and a signal from a mode selection switch provided separately at the plasma display panel.**

16. In the same field of endeavor, Boger '351 clearly teaches the method **further comprising: receiving at least one of a signal from a remote controller for remotely**

controlling the plasma display panel, a cable signal connected to a different media and a signal from a mode selection switch provided separately at the plasma display panel (see Boger '351 at column 1, lines 58-end and continued at column 2, lines 1-10; additionally at column 8, lines 16-31 and illustrated in FIGs. 4 and 5).

17. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate the selection method as taught by Boger '351 into the display method of the Kasahara Publication in view of Kang further in view of Shigeta '625 because all are within the same field of endeavor, and furthermore, for the commonly understood benefits of allowing a single display device to serve in two operational modes, thereby conserving space and redundancy of displays; additionally, Boger '351 method clearly optimizes viewing of television signals (see Boger '351 at column 2, lines 13-28).

18. Regarding claim 3, the Kasahara Publication in view of Kang further in view of Shigeta '625 further in view of Boger '351 clearly teaches **the method as claimed in claim 1** (see above), **wherein selecting the operation mode includes: determining said operation mode in response to said received signal** (see Boger '351 at but not limited to column 2, lines 28-42 describing receipt of signal and operation mode selection).

19. Regarding claim 12, the Kasahara Publication in view of Kang further in view of Shigeta '625 further in view of Boger '351 clearly teaches **the driving apparatus as claimed in claim 11** (see above), **wherein said mode selector receives at least one of a signal from a remote controller for remotely controlling the plasma display panel, a cable signal connected to a different media and a signal from a mode selection switch provided separately at the plasma display panel** (see Boger '351 at column 1, lines 58-end and continued at column 2,

lines 1-10; additionally at column 8, lines 16-31 and illustrated in FIGs. 4 and 5), **and determines said operation mode in response to said received signal** (see Boger '351 at but not limited to column 2, lines 28-42 describing receipt of signal and operation mode selection).

20. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Kasahara Publication in view of Kang further in view of Shigeta '625 as applied to claim 1 above, and further in view of Shigeta et al., (US 6,369,782 B2) hereinafter referred to as "Shigeta '782".

21. Regarding claim 5, the Kasahara Publication in view of Kang further in view of Shigeta '625 clearly teaches **the method as claimed in claim 1** (see above). The Kasahara Publication does not explicitly teach **the selective writing sub-fields are for selecting on-cells in an address period; and the selective erasing sub-fields are for selecting off-cells in the address period.**

22. In the same field of endeavor, Shigeta '782 clearly teaches **the selective writing sub-fields are for selecting on-cells in an address period** (see at, but not limited to, column 2, lines 37-41; column 5, lines 23-37); **and the selective erasing sub-fields are for selecting off-cells in the address period** (see at, but not limited to, column 2, lines 37-42; column 5, lines 23-37).

23. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate the subfield addressing as taught by Shigeta '782 into the driving method of the Kasahara Publication in view of Kang further in view of Shigeta '625 because all are within the same field of endeavor, and furthermore, because the teaching of Shigeta '782 improves display contrast, a goal commonly sought though subfield addressing and continuously improved upon in the art (see Shigeta '782 column 2, lines 20-23).

24. Claims 6-10 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Kasahara Publication in view of Kang further in view of Shigeta '625 as applied to claims 1 accordingly above, further in view of Shigeta '782 and further in view of Otobe et al., (US 6,144,364) hereinafter referred to as "Otobe '364").

25. Regarding claim 6, the Kasahara Publication in view of Kang further in view of Shigeta '625 clearly teaches **the method as claimed in claim 1** (see above), further in view of Shigeta '782 clearly teaches **wherein said controlling includes: the number of selective erasing sub-fields to be larger than the number of selective writing sub-fields** (see Shigeta '782 at FIGs. 9-13 further described in column 8, lines 43-end continued through column 10, lines 1-2, describing embodiments of selective erasure). The Kasahara Publication in view of Kang further in view of Shigeta '625 further in view of Shigeta '782 does not explicitly teach **if said first operation mode is an AV mode in which a motion extent of said data is large**.

26. In the same field of endeavor, Otobe '364 clearly teaches **if said operation mode is an AV mode in which a motion extent of said data is large** (see Otobe '364 at FIGs. 70-73, described at, but not limited to, column 40, lines 8-end and continued at column 41, 1-end).

27. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate motion detection method as taught by Otobe '364 into the display method of the Kasahara Publication in view of Kang further in view of Shigeta '625 further in view of Shigeta '782 because all are within the same field of endeavor, and furthermore, because the method as described by Otobe '364 would improve the gradation

display and effectively prevent false contouring (see Ootobe '364 at, but not limited to, column 6, lines 40-60).

28. Regarding claim 7, the Kasahara Publication in view of Kang further in view of Shigeta '625 in view of Shigeta '782 and further in view of Ootobe '364 clearly teaches **the method as claimed in claim 1** (see above), **wherein said controlling includes: if said second operation mode is a PC mode in which a motion extent of said data is small** (see Ootobe '364 at FIGs. 70-73, described at, but not limited to, column 40, lines 8-end and continued at column 41, 1-end), **then setting the number of selective writing sub-fields to be larger than the number of selective erasing sub-fields** (see Shigeta '782, see at FIGs. 9-15 further described in column 10, lines 30 to end, describing embodiment of selective writing).

29. Regarding claim 8, the Kasahara Publication in view of Kang further in view of Shigeta '625 in view of Shigeta '782 further in view of Ootobe '364 clearly teaches **the method as claimed in claim 1**(see above), **wherein differently controlling at least one of said sub-field arrangement and the number of sustaining pulses includes: if said first operation mode is an AV mode in which a motion extent of said data is large** (see Ootobe '364 at FIGs. 70-73, described at, but not limited to, column 40, lines 8-end and continued at column 41, 1-end), **then setting the number of selective erasing sub-fields to be greater than the number of selective writing sub-fields to reduce contour noise at a moving picture relative to the second operation mode** (see Shigeta '782 at FIGs. 9-13 further described in column 8, lines 43-end continued through column 10, lines 1-2, describing embodiments of selective erasure); **and if said second operation mode is a PC mode in which a motion extent of said data is small** (see Ootobe '364 at FIGs. 70-73, described at, but not limited to, column 40, lines 8-end and continued

at column 41, 1-end, describing selection of operation based on motion detection), **then setting the number of selective writing sub-fields to be larger than the number of selective erasing sub-fields to increase a gray level expression range relative to the first operation mode** (see Shigeta '782, see at FIGs. 9-15 further described in column 10, lines 30 to end, describing embodiment of selective writing).

30. With regard to claim 14, it is similarly analyzed as claim 6 above and therefore rejected under the same rationale.

31. With regard to claim 15, it is similarly analyzed as claim 7 above and therefore rejected under the same rationale.

32. With regard to claim 16, it is similarly analyzed as claim 8 above and therefore rejected under the same rationale.

33. Regarding claim 9, the Kasahara Publication in view of Kang further in view of Shigeta '625 further in view of Shigeta '782 further in view of Otobe '364 clearly teaches **a method of driving a plasma display panel** (see Kasahara publication, page 3, paragraphs [0065]-[0067 continued on page 4) **comprising: selecting an operation mode on a basis of a motion extent of a data** (see Kasahara publication at least at page 11 paragraphs [0114]-[0119]); **and controlling a number of sustaining pulses within a frame interval differently in response to said selected operation mode** (see Kasahara, at but not limited to page 11 paragraphs [0114]-[0119] particularly paragraph [0119]), **wherein differently controlling the number of sustaining pulses includes: if said operation mode is selected to be a PC mode in which a motion extent of said data is small relative to an AV mode**, (see Otobe '364 at FIGs. 70-73, described at, but not limited to, column 40, lines 8-end and continued at column 41, 1-end

describing path selection based on motion detection), **then the number of sustaining pulses to be smaller than the number of sustaining pulses set in correspondence with the AV mode in which a motion extent of said data is large relative to the PC mode** (see Otobe '364 at FIGs. 70-73 for motion detection and path selection; see Shigeta '792 describing number of sustain pulses correlating with subfield arrangement at but not limited to, FIGs. 9-15 further described in column 8, lines 43-end continued through column 10, lines 1- 67), **wherein the reduction in the number of sustaining pulses in PC mode is set to reduce average brightness to within a predetermined range relative to average brightness achieved during AV mode** (see Otobe '364 at FIGs. 70-73, described at, but not limited to, column 40, lines 8-end and continued at column 41, 1-end).

34. Regarding claim 17 the Kasahara Publication in view of Kang further in view of Shigeta '625 further in view of Shigeta '782 further in view of Otobe '364 clearly teaches **a driving apparatus for a plasma display panel** see Kasahara publication, page 3, paragraphs [0065]-[0067 continued on page 4) **comprising a mode selector to select an operation mode based on motion extent of data** (see Kasahara publication at least at page 11 paragraphs [0114]-[0119]; **and a controller to control a number of sustaining pulses within a frame interval differently in response to said selected operation mode** (see Kasahara, at but not limited to page 11 paragraphs [0114]-[0119] particularly paragraph [0119], **wherein if said operation mode selected by the mode selector is an PC mode in which a motion extent of said data is small relative to an AV mode** (see Otobe '364 at FIGs. 70-73, described at, but not limited to, column 40, lines 8-end and continued at column 41, 1-end describing path selection based on motion detection), **then said controller controls the number of sustaining pulses to be smaller than**

the number of sustaining pulses set in correspondence with the AV mode in which a motion extent of said data is large relative to the PC mode see Otobe '364 at FIGs. 70-73 for motion detection and path selection; see Shigeta '792 describing number of sustain pulses correlating with subfield arrangement at but not limited to, FIGs. 9-15 further described in column 8, lines 43-end continued through column 10, lines 1- 67), **wherein the reduction in the number of sustaining pulses in PC mode is set to reduce average brightness to within a predetermined range relative to average brightness achieved during AV mode** (see Otobe '364 at FIGs. 70-73, described at, but not limited to, column 40, lines 8-end and continued at column 41, 1-end).

35. Regarding claim 10, the Kasahara Publication in view of Kang further in view of Shigeta '625 further in view of Shigeta '782 further in view of Otobe '364 clearly teaches **the method as claimed in claim 9** (see above), **wherein, in PC mode, the number of sustaining pulses is reduced** (see Shigeta '792 describing number of sustain pulses correlating with subfield arrangement at but not limited to, FIGs. 9-15 further described in column 8, lines 43-end continued through column 10, lines 1- 67) **such that said data is displayed at an average brightness falling in the range of 50% through 80% with respect to an average brightness of said data displayed on the plasma display panel in the AV mode in which a motion extent of said data is large** (see Otobe '364 at FIG. 66, further described at column 35, lines 23-61).

36. With regard to claim 18, it is similarly analyzed as claim 10 above and therefore rejected under the same rationale.

Response to Arguments

37. Applicant's arguments with respect to claim 1-22 have been considered but are moot in view of the new grounds of rejection.

Conclusion

38. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARVESH J. NADKARNI whose telephone number is (571)270-1541. The examiner can normally be reached on 11AM-7PM EST Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sarvesh J. Nadkarni
Examiner – Art Unit 2629

/Amare Mengistu/

Supervisory Patent Examiner, Art Unit 2629